NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

ALTERNATIVE COMMAND FUNDING AND FUNCTIONAL
ORGANIZATION AT THE SPACE AND NAVAL WARFARE
SYSTEMS COMMAND (SPAWAR)

by

Cathy M. Kimmel
and
Edward T. Butzirus

June 2001

Thesis Advisor: Lawrence R. Jones

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20011128 036

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE June 2001	3. REPORT TYPE AND DATES COVERED Master's Thesis

4. TITLE AND SUBTITLE : Alternative Command Funding and Functional Organization at the Space and Naval Warfare Systems Command (SPAWAR)	5. FUNDING NUMBERS
6. AUTHOR(S) Kimmel, Cathy M. and Butzirus, Edward T.	

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000	8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A	10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.	12b. DISTRIBUTION CODE

13. ABSTRACT *(maximum 200 words)*

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14. SUBJECT TERMS Cost Analysis, Command organization, SPAWAR Organization	15. NUMBER OF PAGES 102
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std.

239-18

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ALTERNATIVE COMMAND FUNDING AND FUNCTIONAL ORGANIZATION AT THE SPACE AND NAVAL WARFARE SYSTEMS COMMAND (SPAWAR)

Cathy M. Kimmel
Lieutenant Commander, United States Navy
B.S., University of San Diego, 1988

Edward T. Butzirus
Lieutenant, United States Navy
B.S., Marquette University, 1991

Submitted in partial fulfillment of the
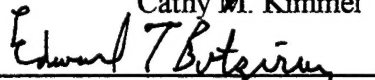requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

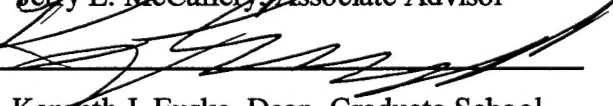## NAVAL POSTGRADUATE SCHOOL
June 2001

Authors: _____

Cathy M. Kimmel

_____

Edward T. Butzirus

Approved by: _____

Lawrence R. Jones, Thesis Advisor

_____

Jerry L. McCaffery, Associate Advisor

_____

Kenneth J. Euske, Dean, Graduate School
of Business and Public Policy

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ABSTRACT

This thesis examines funding sources for two Space and Naval Warfare Systems Command (SPAWAR) System Centers. SPAWAR System Centers Chesapeake and SPAWAR ITC, located in New Orleans, is the focus of this thesis. This thesis conducts a through review of the current funding structure at each SPAWAR System Center. Funding options available to SPAWAR System Centers are mission funding, which are monies appropriated by Congress, and reimbursable funding, which are monies recovered from customers for services rendered. Strengths and weakness of each funding method are analyzed for potential improvement. Each SPAWAR System Center's business base is also studied in regard to opportunities to grow the existing customer base and to identify potential threats to current market share. After careful examination of existing funding methods and in-depth interviews with top financial official at the different SPAWAR System Centers, change recommendations to existing funding requirements and organizational structure are presented.

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I. INTRODUCTION

The management control, budgeting, and accounting structures used by the Department of Defense (DoD) do not correspond well either to its mission and responsibility structure or the organization structure as a whole [Ref. 1]

A. BACKGROUND

In 1999, Congress enacted public law that mandates the Department of Defense (DoD) to identify resources allocated to mission and support activities in each of the five preceding years. [Ref. 2] General Colin Powell, the Chairman of the Joint Chiefs of Staff in testimony to the Congress in February of 1991 stated that a mission perspective was appropriate for long-range defense-resource decision-making [Ref. 1:p. 213]. In today's world of declining fiscal resources, it becomes imperative to maximize the shrinking defense dollars to protect American security interests and preserve a strong and ready military by investing in our people, maintaining readiness and accelerating modernization. To keep pace with a streamlined and more agile force, DoD is seeking to gain savings from reform and streamlining under the Defense Reform Initiative that was launched in 1997. The Department and the various services, Navy included, has adopted many of the best business practices of the private sector, consolidated and streamlined organizations, transformed their financial management and travel operations, continued reforming their acquisition process, and reduced excess infrastructure costs through four rounds of Base and Realignment and Closure (BRAC).

One command that provides a valuable mission to the Department of Defense is the Echelon II command under the Chief of Naval Operations, Space and Naval Warfare Systems Command (SPAWAR), established in May of 1985, following a re-organization of the NAVELEX Material Command. The SPAWAR mission is to provide the war fighter with knowledge superiority by developing, delivering, and maintaining effective, capable and integrated command, control, communications, computer, intelligence and surveillance systems. In addition to meeting the fleet's Command, Control and Communications requirements, emphasis was placed on Undersea Surveillance and Space Systems programs. SPAWAR became the Navy's Battle Force Architect - a new concept aimed at designing total systems for the forces instead of individual platforms and weapons. With the mission change, SPAWAR became manager of eight Navy laboratories and four university laboratories, as well as seven engineering centers geographically dispersed throughout the country. In 1995, through the Base Closure and Realignment Commission (BRAC), legislation directed SPAWAR to restructure its operations and move its headquarters staff to San Diego from Arlington, Virginia. On Oct. 1, 1997, SPAWAR officially re-established its headquarters in San Diego and consolidated its operations to three Systems Centers operating in four major locations with a global impact. SPAWAR additionally reorganized its Naval workforce that supports the National Reconnaissance Office and established the SPAWAR Space Field Activity, Chantilly, Virginia in November 1999 and in November 2000, acquired the Information Technology Center in New Orleans as significant Echelon III activities.

SPAWAR's workforce is now comprised of about 7,500 military and civilian employees working to develop, deliver, and maintain the C4ISR, Information Technology and Space systems for the Navy and Defense Department's future.

SPAWAR funding is the subject of this thesis. However, in order to proceed, it is important to clarify terminology and set forth definitions of the following terms, "mission funding" and "reimbursable funding".

Mission funding is also known as appropriation funding. The Department of Defense (DoD) budget is one portion of the federal budget. National Defense is only one of twenty budget functions in the federal budget, which are simply breakdowns of how spending is categorized in the federal budget. An appropriation is the authority provided by an Act of Congress to incur obligations for specified purposes and to make payments out of the Treasury. Appropriations are classified in several different categories based on their purpose, duration and amount. The Department of the Navy receives appropriations via the Department of Defense Appropriation Act. All appropriations not only specify the amounts available for obligation, but also the purposes for which they are intended.

Per the Budget and Accounting Act of 1921, by the first Monday of February, the President must submit to Congress his proposed Federal budget for the next fiscal year, which begins on October 1st. The White House Office of Management and Budget (OMB) prepares the budget proposal, after receiving direction from the President and consulting with his senior advisors and officials from Cabinet departments and other agencies. The President's budget, which typically includes a main book and several accompanying books, covers thousands of pages and provides reams of details. The

twenty budget functions are categorized as either "discretionary" or "mandatory" spending. Discretionary spending, which accounts for one-third of all Federal spending, is what the President and Congress must decide to spend for the next year through the 13 annual appropriations bills. It includes money for such activities as the FBI and the Coast Guard, for housing and education, for space exploration and highway construction, and for defense and foreign aid. Mandatory spending, which accounts for two-thirds of all spending, is authorized by permanent law, and not by the 13 annual appropriations bills. It includes entitlements, such as Social Security, Medicare, Veteran's Benefits, and Food Stamps, through which individuals receive benefits because they are eligible based on their age, income, or other criteria. It also includes interest on the national debt, which the government pays to individuals and institutions that hold Treasury bonds and other Government securities. The President and Congress can change the law in order to change the spending on entitlements and other mandatory programs. Appropriated funds flow from Resource Sponsors to headquarters then down to system center commands for execution.

Jones and Bixler suggest mission funding as an alternative to the above-described apportionment of funds process. They describe reform possibilities for Congressional apportionment according to mission component areas to eliminate separate budget, authorization and appropriation committees and, instead, employ only one joint budget committee to perform the work of budget review and appropriation for both houses. Apportionment of funds would flow from the treasury through the Office of Secretary of Defense to the commands as determined by Congress. Greater budget-execution control

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authority and accountability would be vested in the commands. In essence, mission budgeting would be much more centralized for Congress and the commands.

In contrast to this mission funding is the reimbursable funding process. The Navy Working Capital Fund (NWCF), a revolving fund, was established in December 1996 when the Under Secretary of Defense (Comptroller) separated the Defense Business Operations Fund (DBOF) into four working capital funds – Navy, Army, Air Force, and Defense. [Ref. 3] The term "revolving fund" describes the mechanism used to finance the Navy's business-like activities. Unlike an *appropriated* fund activity, which is financed through an annual appropriation of funds from congress, a revolving fund activity receives an *earned authority* for the amount of every customer order accepted. As work is accomplished, the revolving fund activity uses Working Capital Fund (WCF) cash to pay for the costs of performing work or providing material. Customers are then billed based on stabilized rates and prices, and the customers reimburse the WCF, replacing the cash. The fund "revolves" with an annual goal of a net operating result of zero – all costs covered and no profit retained. [Ref. 4] The Navy's goal is a business management structure that encourages managers and employees of Navy support organizations to provide quality products and services at the lowest cost.

The working capital funds are designed to operate on a break-even basis over time, with service and material rates based on predicted costs and business levels. Administration of a working capital fund carries Antideficiency Act responsibility [Ref. 5]. The Under Secretary of Defense (Comptroller) also requires that the services maintain a 7-10 day balance of cash, plus investment cash. The Assistant Secretary of the Navy

(Financial Management & Comptroller) (ASN) (FM&C)) currently maintains a balance between $400 and 700 million. [Ref. 6] If NWCF activities fail to break even, due to higher than anticipated expenses or slower development of revenue, subsequent year rates must be raised to cover losses and maintain an adequate cash balance for bill payments and capital investments. Effective management of cash at all levels provides for stable rates and prevents over obligation of funds, or a failure to fully obligate funds authorized.

The goal of this thesis will be to assess the above described funding methods as they relate to current business practices at SSC Chesapeake and SPAWAR ITC to determine if the present funding methods are being used effectively, or if the present funding methods can be developed or improved to better meet command objectives.

One caveat needs to be expressed with reference to the mission funding recommendations of Jones and Bixler. In their work they define mission relative to mission areas in a geographical and command sense. They support mission funding to cause money, both appropriations and reimbursable funds, to flow more directly to fleet commands. In their definition they do not distinguish between appropriated versus reimbursable funding in the same way that we have separated and defined these categories in this thesis. However, their general support for mission funding, which we define as funded by appropriations, is important in the sense that its purpose is to increase delegation of authority and responsibility for spending decisions as critical to better aligning mission and sources of and a means for applying better business practices funding in the Navy and Department of Defense. We have taken the Jones and Bixler definition a step further by distinguishing between appropriated and reimbursable funding

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to determine which is most appropriate to support work of various types in the Space and Naval Warfare Systems Command (SPAWAR).

B. PURPOSE

The purpose of this thesis is to examine alternative methods of funding at the Space and Naval Warfare Systems Command (SPAWAR) centers, Chesapeake and New Orleans. Admiral Gauss, the Commander of SPAWAR has asked whether, in an effort to act corporately by promoting change to facilitate funding procedures and to save the customer money, whether a change in policy for SPAWAR would better meet command efficiency, funding and management control objectives.

We will research the possibility of mission funding overhead fees at SPAWAR System Centers. Further, we will research whether other components or activities at SPAWAR might benefit from mission funding.

With mission funding as an option, we will analyze the financial organization and funding authority at SPAWAR. The current funding authorization and procedures comply with NAVCOMPT and command requirements. However, it may be more beneficial to the Navy, NAVCOMPT, SPAWAR, and customers if the Commander of SPAWAR made more decisions on how the SPAWAR budget is allocated. In essence, we will explore the idea of mission funding for some activities, now funded on a reimbursable basis. We will also look at the possibility of passing funding decision authority to the Commander of SPAWAR. The objective is to investigate whether there are faster,

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cheaper and more effective ways of making and executing funding decisions at SPAWAR.

C.   SCOPE AND METHODOLOGY

The scope focuses on SPAWAR funding and organizational issues within the System Center commands. Both SPAWAR System Centers receive funding from a host of sponsors and programs currently funded on a reimbursable basis or mission funded. Therefore, not all of the SPAWAR budget will be analyzed in this thesis. The methodology for the thesis research will consist of the following:

1. Conduct a through review of existing SPAWAR ITC and SPAWAR Systems Center Chesapeake funding requirements.

2. Examine existing SPAWAR funding organization.

3. Conduct an analysis of how changes could be made to the existing SPAWAR funding requirements and organization.

4. Interview command officials regarding current funding procedures and potential reforms.

5. Examine the potential for different funding procedures and changes in spending authority.

D.   RESEARCH QUESTIONS

The central goal of this thesis is to better understand how SPAWAR's System Centers are funded to support their growing business base. Secondly, this thesis explores application of reimbursable versus mission funding certain portions of these centers. The primary research questions of this study are:

- How should SPAWAR Systems Center New Orleans and SPAWAR Systems Center Chesapeake be funded?

- How can they best grow their business base?

- What is the best funding mechanism for SPAWAR Systems Center New Orleans and SPAWAR Systems Center Chesapeake?

The secondary research questions include:

- What is the current funding structure for SPAWAR Systems Centers Chesapeake and New Orleans? What are the strengths and weaknesses of their funding methods?

- How would mission funding differ from reimbursable funding?

- In support of Better Business Practices (Revolution of Business Affairs), what regulations might be waived to improve command efficiency?

E.   ORGANIZATION OF THE STUDY

This study is organized into five chapters. Chapter II reviews the SPAWAR funding structure at SSC Chesapeake. Chapter III reviews the SPAWAR funding structure at SSC New Orleans. Chapter IV compares and examines alternative funding methods and Chapter V provides conclusions and recommendations for further study.

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II.   SPAWAR SYSTEM CENTER CHESAPEAKE

This chapter examines SCC Chesapeake through the use of McCaskey's framework for analyzing working groups. It is helpful to use McCaskey's model in order to frame the organization being evaluated and enable the reader to understand the open system approach. This model will show both internal and external environmental factors or inputs effecting the organization, design factors with the organization, and the results produced in the form of corporate culture that emerges and good and services produced. (Refer to Appendix A - the McCaskey Model)

A.   SYSTEM INPUTS

1.   Environment

Space and Naval Warfare Command Systems Center Chesapeake's (SSC Chesapeake) mission of logistic support for the operating forces is more complex today than ever before. Keeping the Navy's ships, submarines, and aircraft in peak operating condition demands reliable and responsive business information systems. SSC Chesapeake's mission is to design, develop, deliver, and support integrated information systems for the U.S. Navy and the U.S. Marine Corps. [Ref. 7]

2.   Key Success Factors

SSC Chesapeake is an echelon three field command reporting to Commander, Space and Naval Warfare Command (SPAWAR). SSC Chesapeake is located in Chesapeake, Virginia, where it provides software design, development, testing, training,

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delivery and support operations. Additionally, branch offices are located in San Diego, Sigonella, and Yokosuka. Collectively these offices provide the Sailor, Airman and Marine with comprehensive, life cycle support of all products and services across the globe and around the clock. SSC Chesapeake's dynamic customer base includes the men and women aboard more than 350 ships and submarines and an additional 450 fleet support organizations around the world. [Ref. 7]

3. Strategic Issues

According to Mike Fuller, Assistant Fleet Support Director at SSC Chesapeake, "competition is tight for potential customers but a host of untapped opportunities do exist in today's market place." [Ref. 8]

> Through the continued downsizing of the United States government, 1995 brought the year that SSC Chesapeake was placed on the BRAC (Base Realignment and Closure) list. The BRAC directed not closure, but realignment of SSC Chesapeake under NCOSS. Once the SPAWAR headquarters was moved out to San Diego, NCOSS was absorbed back into SPAWAR. The BRAC also directed that SSC Chesapeake move from its commercial location in Chesapeake, VA and lease government space within the facilities of the Norfolk Naval Base. There are some buildings currently being renovated that should be complete this summer, which SSC Chesapeake is targeted to move into in December 2001 or January 2002. [Ref 9]

When questioned with regard to the move to the facilities at the Norfolk Naval Base and whether significant cost savings to the Navy would be realized, Mike Barowich responded,

Not necessarily, it was a BRAC item and nobody would reclama it. It was put in that we would move out of here (commercial office location). It was proven that it is not really cheaper. The payback is a long time. The law is the law and we have to abide by it. The (new) overall building is an old five-story warehouse that is being renovated to house us (SSC Chesapeake), COSAC, NAVTRANS, and DFAS Norfolk. There will be over 1000 people in the building. Parking will be at a premium. [Ref. 9]

B. ORGANIZATIONAL DESIGN FACTORS

1. TASK REQUIREMENTS

One of the most important functions SSC Chesapeake must accomplish to perform effectively is to properly manage funds. This is not always an easy task considering that there are two different types of funding processes and anywhere from 250-300 different sets of accounting records to maintain at SSC Chesapeake. The majority of these accounting records are required to be maintained for reimbursable work that SSC Chesapeake performs for other government activities. According to the Department of Defense Financial Management Regulation DoD 7000.14-R, Segregation of Budgetary Resources, if an activity receives budgetary resources from more than one source (for example, reimbursable authority from customer orders accepted and direct authority from appropriations, or allocations of appropriations, received), the receiving activity must maintain records which will enable it to control and report separately the transactions to each type of source. [Ref. 10]

Mike Barowich described three of the tasks involved in managing the finances at SSC Chesapeake:

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First he described the priority setting task:

> What we do every year, and we are getting ready to do it this year in a couple of weeks, we have a program status review with the major funding sponsor which is PMW 151 and we put together a list of taskings that we say that this is what we are going to do this year and this is what we don't think that we have enough money to do next year. We meet and discuss what we think that we should be doing against what they think we should be doing and once we agree on that we price it out. If the program does not have enough resources to do what they want us to do and what we think we should do then we have to negotiate what is coming off of the list of taskings for next year. [Ref. 9]

Secondly, he stated the budget task:

> When the money comes in, once we resolve that, and we resolve the costing so that what we say we need to do agrees with the amount of money that you have to do it. We know the breakdown by the directorates in the building, who needs what, and what code needs how much money to do their normal routine. Like for Kay (Kay Brown, Comptroller Accounting Branch Head) and I, how much do we need to pay the telephone bill and how much do we need to pay for Public Works support, for the vehicles and software maintenance, the commercial software maintenance that we have. We are responsible for command support. The rest of the directors get funds for their folks to travel on, to train them, to buy new equipment if they need that, to buy supplies, to do printing of manuals (which is slowing down because a lot is going out on CD ROMs). [Ref. 9]

Third, he described the budget execution task:

> Then we monitor execution against that for the directors every year. If they are not spending we do what Headquarters does, if they are under executing then I get sticky fingers and pull the money back and give it to someone else in the building where it can be used or it put to keep funding contractor effort. [Ref. 9]

When asked what he would change about the current funding structure at SSC Chesapeake, Mike Barowich immediately replied, "I would rather see more of the money coming mission then reimbursable." Kay Brown quickly agreed with this assessment.

2. People

Good personnel are obviously vital to the successful operation of any organization. It is not only important to provide personnel with the tools necessary to complete their assigned tasks, it is also important to take notice when they have an idea to improve the current process. The current process concerning reimbursable documents at SSC Chesapeake is an extremely labor intensive one. "Every time we get a reimbursable it is like keeping a separate set of books." (Barowich, 02 February 2001) "It does not matter if it is a $300 life cycle support thing for ATOS or $1,000,000, the same amount of effort goes into it." [Ref. 11]

The requirement is to keep a separate file on every single reimbursable document. That means that SSC Chesapeake's financial personnel have anywhere between 250 to 300 files to track and maintain for each of their customers who contribute funds through reimbursable documents. The silly thing is that the exact same type of accounting is done on each and every one of these files. Whereas with items that are mission funded, only one file is maintained. Of course, this single mission funded file is broken up by cost center within the command. "...to break it up a little bit but it is still just one thing, and it is a hell of a lot easier to monitor." [Ref. 9] Mission funding accounting practices also makes things a lot smoother and easier when it is time for the annual program status review discussed earlier.

Mission funding is one centralized pot of money and therefore easier to manage as compared to the complex reimbursable funding system. "When we have these 300

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reimbursables, which are the same thing just on a smaller scale, most of them cross directors so each of those files have to be separated out across several different directors." (Brown, 02 February 2001) "If we get a reimbursable document in, let's say half a million dollars, it could effect two, three, four, five directorates. Then you have to set up a separate budget within the reimbursable for each directorate and monitor it." [Ref. 9]

The process of tracking and maintaining SSC Chesapeake's one mission funded file and 250-300 reimbursable files requires the majority of the work day for seven full-time financial and administrative personnel. If the majority of SSC Chesapeake's money were to be mission funded the personnel required to track and maintain these files could be significantly reduced. A majority change to mission funding would also allow financial and administrative personnel to concentrate their effort on planning for future year requirements.

For nearly a decade there have been discussions at SPAWAR Headquarters to shift the funding structure at SSC Chesapeake to one of purely Navy Working Capital Fund (NWCF). Personnel throughout the Comptroller shop at SSC Chesapeake abhor the idea and state that the accounting and administrative personnel in SSC Chesapeake's Comptroller shop would need to double in size to assume the additional workload demanded by a NWCF activity.

When asked if SSC Chesapeake were hypothetically 100% mission funded, what incentive the command would have to cut costs if they received all the money, they said they needed to operate, the high caliber of its financial personnel was readily evident in the care that they take to scrutinize spending requests:

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A lot of it is work ethic, even our mission funded stuff we do 1301A reviews to make sure that what someone is trying to buy or what they are trying to travel for is mission related. Kay's group is sort of the choke point for all expenses before they really happen. Say somebody puts in a travel request to take a trip to Miami and they are taking 20 people...stop, this doesn't make sense why do we need to send 20 people to a conference? That is a real situation that happened. It ended up that there were only five people that went. [Ref. 9]

3.   Technical

SSC Chesapeake uses the field level Standard Accounting and Reporting System (STARS) for all official accounting for both mission funded and reimbursable accounts. The system is used to produce monthly reimbursable NAVCOMPT 2193 (Status of Reimbursable Orders) Forms for each Job Order Number on each reimbursable account. NAVCOMPT 2193 lists all funds currently obligated and also displays any unobligated expenditures. Project Managers receive these monthly reports to track both job completion percentages and funding obligation rates. SSC Chesapeake has approximately 20 Project Managers that oversee its 250 – 300 reimbursable accounts. [Ref. 12]

SSC Chesapeake has many new software programs in the development and installation phases. Web enabling software programs are currently an important project for SSC Chesapeake. When asked to point out some of the current program highlights Mr. Barowich remarked:

We are going to take Relational Admin, which is an administrative system. We are going to take R-Supply (Relational Supply), which is the supply system that is used on the ships. We are going to take OMMS-NG (Organization Maintenance Management System – Next Generation), the system that is used on the ship, and web-enable them so that when the software is implemented now it is loaded on the server and the software has to be loaded on certain PCs to enable it to work. It is a client / server type thing. When we web-enable it, it will only be loaded on the server and you will go into the web to access it, so there will be no requirement to put a client license on a PC. So anybody on the ship will be able to access the NTCSS software. Right now there are only so many terminals per ship that are authorized to use NTCSS because that is all the licenses that are given to a ship. For instance carriers are given 150 licenses. Once it is web-enabled you will just go to a link…there will be one copy on the ship and anyone that has access to NTCSS will be able to go on the server and do their job. [Ref. 9]

In the event that problems with the software occur, SSC Chesapeake would fix them locally. SSC Chesapeake does not give customers the actual source code to manipulate their software. If customers run into a problem, any problem, they submit a trouble report. Customers can also go out through the web to SSC Chesapeake's Software Maintenance Tracing System (SMTS). This allows the customer to call SSC Chesapeake's support personnel and inform them of what problems they are having. Oftentimes SSC Chesapeake can resolve it over the telephone. If the problem cannot be resolved over the phone, and the customer is not in the local area, one of SSC Chesapeake's three remote detachments will go to the customer and repair the problem.

4. Structure

Navy Management Systems Support Office (NavMASSO) was established in 1978 to support three existing fleet systems operating at 81 sites. In 1981 the command's

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mission expanded to include automation responsibilities for key fleet business areas. In October 1997, NavMASSO joined with SPAWAR and became SPAWARSYSCEN Chesapeake. Presently, SSC Chesapeake proudly serves over 900 customer sites around the globe. Additionally, SSC Chesapeake, under a Congressional Program called Navy Tactical Command Support System (NTCSS), is fully engaged in innovative efforts to upgrade fleet business applications which fully integrate with both tactical systems and commercially available off-the-shelf systems.

As discussed earlier in the People section of this model, ethics and hierarchy play an important role in the structure of managing the funds entrusted to SSC Chesapeake. This responsibility goes as far as deciding which expenses are legitimate and which requests require scrutiny. When asked about performing the duty of approving expenses Mike Barowich replied with, "Yes, I do that as part of my job. Part of our job as Comptroller and Finances is why are we spending this money, you need to explain that there is a valid reason. Example, you have a perfectly good monitor but you want a flat screen. [We will] only replace it if it is broken. We put a semi-sanity check on expenditures." [Ref. 9] Mike Barowich described how this might work at the end of the fiscal year:

We would try to legitimately spend it, just to get down to the end of the year and have $200,000 left, there is nothing we really need but someone says that we are going to spend it any how…we have a good working relationship with SPAWAR 01 so if we get to the end of the year and for whatever reason we can't use the money – I give it back. Well they can use it at the Headquarters. But it works both ways, if there is a glitch somewhere that we did not account for, let's use this as an example – on the civilian labor side we budget for all the civilians, we budget for bonus awards and since we are under demonstration project we budget for continuing pay points. Since we do not get within grades our annual raises are based on our annual performance. We don't necessarily budget for large lump-sum leave costs, which are the costs, paid a civilian when he retires for all his accrued but unused leave. So if for some strange reason, the 1st of September, we had five people decide that they are going to retire and they all had 300 hours of annual leave on the books. I would be calling Headquarters and telling them that I was surprised. I can offset 80 hours of their annual leave with the salary that we are going to save that they are not going to work. But I don't have any more money and Headquarters does. It wasn't anything that we did to ourselves by mismanagement. [Ref. 9]

Headquarters acts as a kind of sanity check on all their System Center field offices. Basically Headquarters assigns a piece of the funding pie to each SPAWAR System Center. The guidelines are to spend the funds wisely, and to do the best to make it last, but if something unforeseen comes up the System Centers can contact Headquarter and additional funds will be made available. This process works both ways. If the System Centers have spare funds the money will be turned back into Headquarters so it can be used elsewhere.

We can say what we anticipated this year is just not materializing. My contract effort is funded; do you need any BA1, O&MN money? And we have done it. We have done it both ways. We have a very good working relationship with the SPAWAR 01 folks. They are our sanity check and we are theirs. [Ref. 9]

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In some cases SPAWAR Headquarters may request that System Centers return a portion of their allotted funds to help subsidize special projects. It is in each System Center's best interest to closely manage their spending so excess funds can be turned back to Headquarters when necessary. SSC Chesapeake does an excellent job of being proactive concerning excess funds:

> They (Headquarters) will call and say that they are looking for money because the Admiral wants to do this. Usually if we contribute then we are not taxed. It is easier to give then to be cut. The other advantage; one of the advantages of us being mission funded, this year SPAWAR is under executing their O&MN money which means that it is sitting on their books which means that they have too much in the quarter. We just took $7,000,000 off their hands, because as soon as they send it to us they consider it an obligation. So their obligation rate goes up so NAVCOMPT doesn't look at them for under executing. What it did, instead of getting my labor allocation for labor in the third quarter, I got my labor allocation in the second quarter. But it gives Headquarters an obligation where they do not have to have NAVCOMPT coming in at mid year and saying your O&MN budget for civilian salaries is $50M and your only obligated at 20% you must not need it all so here is a 10%mark. [Ref. 9]

5. Funding Process and Operating Budget

When asked to describe the current funding at SSC Chesapeake Mike Barowich replied:

We have two operating budgets that come out of SPAWAR 01. One of them funds all of our mission funded civilians, and that is all that is charged to it, anything related to civilian labor. The other one funds operating expenses: travel, supplies, training, equipment, life cycle support contractors, utilities, printing, and things of that nature. They are all budgeted from the NTCSS (Navy Tactical Command Support System) program office and that is where they are funded. NTCSS applications are supply, maintenance actions, organizational aircraft maintenance, intermediate aircraft maintenance, food service management for your galleys, resale ops for your ship stores, and Medical SAMS for independent duty corpsman. The rest of the money that we receive here every year is done on reimbursables. We'll get anywhere from 250-300 reimbursable documents every year. We do a lot of work for the Marine Corps, NAVAIR, and NAVSUP. A lot of smaller activities use a lot of the software that we have. We have a licensing fee since some of the programs have no real sponsor. Like the travel program, which is ATOS Plus, it is used fleet wide. Because it is not a specific program office, each activity funds what we call a life cycle cost that every year they get updates to the software. If they have problems with the software that is what we use (funds) to go out and fix the problem, do trouble reports and things of that nature. Annually we operate on $50 – 60 million dollars per year. Between all the reimbursables that we receive plus the operating budget that we receive from SPAWAR." [Ref. 9]

When asked about how the money is distributed between mission funding and reimbursables Mr. Barowich had this to say:

It is probably 50/50. A lot of the money we get on the reimbursable side comes out of SPAWAR's reimbursable, like all of the software installs that we do in the fleet, that comes out of SPAWAR 04 on a reimbursable. The database conversions and builds that we do in support of the install are funded out of PMW 151 department (NTCSS Program Office) as OPN dollars on a reimbursable. If we are doing new construction, PCU ships, we get SCN money. All the costs associated with that ship until it is commissioned and turned over to the navy is tied to an SCN appropriation. We get a lot of money from NAVSUP to do stuff related to R-Supply. We are getting ready to put the shipboard supply system for large decks, modified somewhat, to go to the air stations where they run UDAPS. They are trying to consolidate supply systems afloat and ashore, that is where the target goal is and that is being funded by NAVSUP because it is not part of what the program is budgeted to do right now. NAVSUP wanted to get it done so they are funding it so we can get it done sooner.

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We do have three other detachments, one in San Diego, one in Yokosuka, and one in Sigonella. The one in San Diego does the West Coast, the one in Japan does the 7th fleet, and the one in Sigonella does the Med. Their names are SPAWAR System Center Chesapeake, detachment San Diego, Yokosuka, and Sigonella respectively. They are all funded out of here; they all receive a budget from us. They are all accountable to us. They do only fleet support. In San Diego they do compatibility testing, which is testing the software before it goes out to the fleet to make sure that everything runs in sync and runs properly. The only software development is done here. The other detachments' job is solely fleet support; doing installs, fleet grooms, fleet assist visits. Ships in port run into problems and we send someone down to fix it. If they run into a database problem or there is a program problem it comes back here for us to help resolve.

The rest of the reimbursables are anything from NASA to Defense Hospital. The ones we are working are the Theater Medical Information Program, and PMW 154. We've got RDT&E money, in fact we are getting ready to get a large slug of RDT&E money from N-6, Admiral Mayer, through SPAWAR, to web-enable the NTCSS products. That is a year and a half effort.

NASA uses some of our software; we get annual maintenance money. They use the aviation maintenance system, NASA and the Air Force use it and they pay us an annual fee to keep the software up for them." [Ref. 9]

Mr. Barowich was then asked to describe some specifics concerning the operating

budgets at SSC Chesapeake:

Our operating budgets are annual appropriations, OMN dollars. The install money, the money to support the databases for installs, is OPN. Part of it is for the overall procurement of the hardware. The software is integral to the hardware that was put out there by SPAWAR, so all that is funded out of OPN. We will get SCN money from Headquarters to do a new construction ship implementation. If it is done before the ship is commissioned and turned over to the Navy...the SCN ships are on the install schedule, we provide a separate cost estimate to PMW 151 for every new construction install. Because each ship has its own appropriation under SCN, so all the cost associated with that, if we are going to do six new construction ships this year, we will have six separate lines of accounting. It could be one funding document, but we could have six line of accounting, each line of accounting ties to a hull. [Ref. 9]

C. SYSTEM RESULTS

1. Culture

It is easy for a visitor to see that the financial personnel at SSC Chesapeake are involved with much more than just managing financial matters. They are an integral part of the overall product implementation and customer service that is provided to SSC Chesapeake's customer's fleet wide. Lately, there has been much discussion concerning reimbursable funding at SSC Chesapeake concerning whether or not it meets all the criteria required to be a NWCF activity. In particular, it is perceived that the customer does not have the ability to influence cost by changing demand because SSC Chesapeake is more or less a monopoly due to the fact that they service the entire fleet. Does this monopoly status cloud SSC Chesapeake's ability to see potential threats to its business base? Their answer was no. Financial Managers at SSC Chesapeake are well aware of competition that could cut into their market share.

The largest threat on the horizon is ERP (Enterprise Resource Planning). There are four Navy pilot programs ongoing today. ERP is using commercial available products and then mapping and blueprinting all of your current processes today and then configuring this commercial software to be able to run your business or your operations. There are many large commercial providers of ERP solutions, which include SAP, Commerce One, and Oracle. The Navy is investigating the use of several ERP solutions by taking this commercial software, mapping out navy processes, and then trying to eliminate developing their own unique software to do it. There is one effort that is

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ongoing at SPAWAR San Diego, which is a pilot for NWCF for financials. There is one

that is being done at NAVAIR for project management. There is a combination effort

that is being done between NAVSUP and NAVAIR and they are looking at doing some

aviation support which eventually could be a threat, if successful, to what SSC

Chesapeake does today for the program NALCOMIS within aviation supply and aviation

maintenance.

The largest single threat to SSC Chesapeake's business base according to Mike

Fuller is:

> The NAVSEA community is doing one. NAVSEA has undergone a
> regional maintenance ERP prototype where they believe that over time that
> they can replace over 120 maintenance systems that are in the Navy today
> which are running both ashore and afloat, things that are being run at
> SIMAs (Ship and Intermediate Maintenance Activities), that are being run
> at ship yards, that are being run at technical support systems and afloat
> units. Products such as ATIS (Automated Technical Information System),
> TLMS (Technical Library Maintenance System), OMSNG which is our
> biggest maintenance product that we have in the fleet today, as well as
> MERMS (Maintenance Research Management System) and so NAVSEA
> is trying to configure and roll this product out and they even have, it is
> unfunded beyond the prototype, but they have aggressively pursued this as
> their future software solution. That will create a single master database
> where all these systems will feed information to each other and be ready
> and available. The first, according to their current plans, their initial
> shipboard prototype would be somewhere in the mid 2002 timeframe.

To date there is no software that has been completed. So that is a potential threat, if this is successful, that our business may change. Now we are actively playing with them, we have people that are working on their team. We are providing analysts who know what the current systems will require as we help map this out. We are trying to position our organization, if they are successful, that we will be the guys that are their long-term life cycle support and installers of the software. We may not be the application developer any longer, but we may be the guys that help configure the system, does configuration management, does technical support, and over-the-shoulder training so it may reshape what we do. But we are also trying to position ourselves, if they fail, than we what to be able to continue to do the work that we do and be able to continue to roll our products out. The next phase of our rolling our products out to modernize is our web-enablement. CNO has directed that if you are going to continue in the software business over the next couple of years that you have to have a plan to web enable your application. So we are, on a reimbursable basis, through N6, going to be web-enabling all of our NTCSS applications over the next 12 to 14 months. That is our next big endeavor. [Ref. 8]

The excellent working relationship between Headquarters SPAWAR, combined with its clear ethical standards, business foresight, and obvious market flexibility makes the culture at SSC Chesapeake a very efficient and effective one.

2. Outputs

SSC Chesapeake does reimbursable work for NAVSUP, NAVAIR, and of course SPAWAR is their major customer. SSC Chesapeake does work for NAVSEA, Coast Guard, the SEABEES, Strategic Systems Program Office, Marine Corps (ATLAS – Ground Maintenance Package for Marine Expeditionary Forces is using modified SSC Chesapeake software. This program is funded out of the Marine Corps Systems Command in Quantico, VA). SSC Chesapeake does a lot of work for small squadron and

fleet activities. SSC Chesapeake has a lot of smaller customers that pay them to come in directly and do work for them.

SSC Chesapeake also does work in other areas that they are expanding business into now. They have something called MLDN (Mobile Logistics Data Network). It is a way of moving shipboard workload ashore. SSC Chesapeake set up a prototype on the USS HARRY S. TRUMAN doing data replication from transactions that are taking place aboard the ship. They are being translated off, either on a real time or on a periodic basis. In the case that the server goes down transactions are stored and sent once the system comes back online. AIRLANT has a current database of what is actually taking place aboard the ship. Once AIRLANT is able to look at a database aboard the TRUMAN, at reports that used to have to be run aboard the ship and then sent ashore, AIRLANT now can say, "I'll do this myself" and it will reduce shipboard workload.

Now that SSC Chesapeake has that capability they are coming up with all kinds of ideas like running shipboard financials ashore. SSC Chesapeake is in the process of expanding these capabilities. SSC Chesapeake is going to go to a small West Coast ship initially to test all new systems. Eventually, this will be another area that will be expanded across the fleet once it starts rolling.

Another thing that SSC Chesapeake is doing is they are working with and expanding upon initiatives from CINLANTFLT for a program called, " Collaboration at Sea." There is a sharing of data and information among the battle group and the deployed battle groups. SSC Chesapeake is finding ways of running scripts and queries to enable battle group commanders to query the system to determine onboard availability of

personnel with the desired NEC (Navy Enlisted Classification) in the commanders' battle group. Those kinds of technical capabilities are expanding not only the capabilities of the fleet but also expanding the type of services that SSC Chesapeake is providing.

According to Mike Fuller:

> I think that there are plenty of opportunities that we would fix but it is kind of like the AOL model. It is easier once you have captured the market. We don't have it all captured but we have a good piece of it; it is certainly a lot easier to sell new products and services to existing customers then it is to go and find a new customer. Although, we are finding new customers who are the have-nots within the Navy, the Marine Corps, and we will eventually be expanding over into the Army. We are within the medical system, what we used to do just for the Marine Corps and the Navy, we are getting involved with the Theatre Medical Information Program (TMIP). Eventually the goal of this organization, we used to be a million-dollar operation when we were just doing Navy and Marine Corps, what we have expanded over the past year is now a four million-dollar operation. Hopefully we will be selected as the tri-medical system for the Department of the Navy, the Army and the Air Force as well. We are expanding Palm Pilots, we are getting into the Palm Pilot business. We have made proposals to NAVSUP who is heading up a 25 million-dollar effort for e-commerce. So we have written proposals on things that we think will be good for the navy as pilots for e-commerce solutions. [Ref. 8]

SSC Chesapeake will do work for other government agencies but does not currently do work for commercial agencies. Even though SSC Chesapeake does work for NASA, the Coast Guard, and even the White House Communication Agency they do not have any commercial work. They have never done work for a commercial concern such as Boeing or Delta Airlines. Any government agency can come to SSC Chesapeake and they will do work for them. It is not that SSC Chesapeake cannot do work for commercial agencies, it is just that they never have.

3.   Management Style Results

Financial managers at SSC Chesapeake continue to see that there are plenty of opportunities, just within the navy itself, to continue to grow its business base. Their program NTCSS is tied to system decision papers that were written back in the 1980s. They discussed what their role was and what type of software and services that they would provide. They also identified the activities that the program was intended to support. At the time it did not include all Navy activities and all Navy shore activities and not even all Navy classes of ships.

> There are a lot of have-nots out there. Many of our products on a smaller scale can support the have-nots. We had actually taken our products, and with some modification, gone out and marketed and sold our services to these navy customers. The CBs (Construction Battalion), for example, are using a micro version of our products for doing maintenance and supply. The Special Warfare Group (SPECWAR) is a large customer. They have contracted for software development to specific needs of theirs, non-tactical support. They have been a very large customer. [Ref. 8]

SSC Chesapeake is also supporting other navy activities. One of these is NAVSUP, who has under their umbrella, not only the shore stations and the ships that SSC Chesapeake supports, they also have all the "have-nots" mentioned above. For the last year or two SSC Chesapeake has been trying to leverage N6 to change the scope of its work year to include all those "have-nots" to include them as part of SSC Chesapeake's mission.

> SSC Chesapeake is in the process of implementing at their very first shore activity, which is going to be NAS Oceana. They are going to be replacing products that are not SPAWAR's that are old FMSO products, at all Navy air stations for the next couple of years. Now that they are taking their product to

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shore SSC Chesapeake is expanding its business there. For every air station where SSC Chesapeake implements its system, the Navy anticipates saving three million dollars. The Navy is likely to achieve a huge return on investment through this endeavor.

The SPAWAR funding structure at SSC New Orleans is the focus of the next chapter and uses the same framework of analysis.

III.   SPAWAR ITC NEW ORLEANS

This chapter examines SPAWAR ITC New Orleans through the use of Michael McCaskey's framework for analyzing work groups as open systems. Frameworks help make sense out of the complexities of organizational lives, making tacit assumptions explicit. McCaskey's model is an integrative model, employing a systems view and was chosen as a framework for it's clarity in analyzing both variables affecting the SPAWAR IT C organization as well as interrelationships among the variables. Diagnostic models have boundary issues and can either be closed or open models. The McCaskey open model includes inputs to the organization, elements within the organization, as well as system outputs. The three major elements within the organization are often referred to as the three design factors-people, task requirements and formal organization; the best fit of these design factors in the strongest combination would increase the organizations' chances of success.

A.   SYSTEM INPUTS

1.   Environment

Whatever actions the Director of SPAWAR ITC takes in initiating change will occur within the context of the wider environment. The degree and types of change, social and political forces, competition and economy set the context for examining the environment at SPAWAR ITC New Orleans. In October 2000, the Information

Technology Center (ITC) became an Echelon III field activity under the Space and Naval Warfare Systems Command (SPAWARSYSCOM), with authority of the SPAWAR ITC transferring from Commander, Naval Reserve Force (COMNAVRESFOR) to the Navy. Employing more than 1,000 government, contractor, and military personnel, the SPAWAR ITC serves to complete the SPAWARSYSCOM portfolio with business and personnel systems.

Prior to becoming the SPAWAR ITC, the command experienced a series of evolutions. In 1986, the COMNAVRESFOR Code 10 Deputy Chief of Staff for Information Systems was created with the responsibility for Central Design Activities (CDAs) for Naval Reserve information systems. Code 10 developed and implemented the Reserve Command Management Information Strategy (RESCOMMIS). RESCOMMIS developed systems replaced a myriad of stovepipe systems with a flexible and integrated collection of applications.

In 1995, as a result of RESCOMMIS success, Code 10 was redesignated as the Naval Reserve Information Systems Office (NAVRESINFOSYSOFF), an Echelon III command subordinate to COMNAVRESFOR. In 1997, the CDA functions of several Naval organizations were consolidated under NAVRESINFOSYSOFF.

Through positive results and innovations, NAVRESINFOSYSOFF's role in providing information technology/information management (IT/IM) support grew along with its staff, gaining detachments in Memphis, TN, and Washington, D.C. NAVRESINFOSYSOFF 's responsibilities included program support, operational control, CDAs, and Y2K compliance for all Navy manpower and personnel information systems

and development of designated Department of Defense (DoD) personnel and pay information systems.

> SPAWAR ITC is an activity that grew out of congressional language because of the stovepipe nature of the manpower and personnel software development structure to a more centralized structure. Bob Livingston who was the chairman of the House Appropriations Committee, sponsored legislation in the mid 1980s that directed software development be centralized under one IT organization that was outside of Washington D.C. It was placed under the Chief of Naval Reserve, whose headquarters is in New Orleans. The responsibility was placed under the Naval Reserve information systems office who then went out and took possession of those commands within the bureau of naval personnel, enlisted personnel management center, naval reserve personnel center, NAVMAC, and the Navy recruiting command. [Ref. 13]

The Naval Reserve's role in providing military IT/IM solutions grew in 1997 when the Assistant Secretary of the Navy for Research, Development, and Acquisition (ASN(RD&A)) designated COMNAVRESFOR the Systems Executive Officer for Manpower and Personnel (SEO/MP). The SEO/MP was assigned responsibility for acquisition and program management of all Navy manpower and personnel information resources and designated DoD personnel and pay systems. Development began on the Navy Standard Integrated Personnel System (NSIPS) to provide single point data entry for personnel and pay data for Navy personnel while replacing four legacy systems.

In 1998, construction began on the Navy ITC comprised initially of two buildings located in the University of New Orleans Research and Technology Park. That same year, the SEO/MP was designated as the Executive Agent for the Defense Integrated Military Human Resources System (DIMHRS).

In 1999, a charter was executed by the Assistant Secretary of the Navy for Research and Development Activity, ASN (RD&A) establishing a Program Executive Office for Information Technology (PEO(IT)). The ITC, which by now consisted of the NAVRESINFOSYSOFF and SEO(MP) organizations, reported to the newly established PEO(IT) and served as its primary support command for enterprise software development. The recent alignment under SPAWARSYSCOM will enable the ITC to focus on enterprise business systems for the Fleet and other DoD customers. [Ref. 14]

2. Key Success Factors

For SPAWAR ITC to be successful, the organization must deliver on its mission to improve the Department of Defense readiness operational capability by delivering effective enterprise-wide integrated information management/information technology solutions and life cycle support that reduces the cost of supported functions. Delivering these goods requires new product innovation as well as interoperability and efficiency. Some elements of their vision to be a leader in providing integrated results-based IM/IT solutions are described in the SPAWAR ITC Business Development – Off-Site briefing:

- World-class information technology solutions enterprise, with

- Competencies and repeatable processes, that

- Develop, deploy and maintain IT solutions that exceed their customers expectations, using

- Systems engineering methodology in an enterprise model.

3. Strategic Issues

SPAWAR ITC is faced with the challenge of growing their non-tactical business systems business base. The Commander has asked them to do so to remain viable as an organization. The question becomes, should they expanded geographically, vertically integrate, develop partnerships or joint ventures, acquire or takeover competitors, or diversify through new market and or product development? With undoubtedly new rounds of Base Realignment and Closure (BRAC) in the future, how can this new SPAWAR field activity, that is currently a Navy Working Capital Fund activity secure a niche, and in fact grow business while it transitions to a mission funded activity?

B.   ORGANIZATION DESIGN FACTORS

1.   Structure

The SPAWAR organization consists of a headquarters activity, three systems centers located in San Diego, Chesapeake and Charleston, and one information technology center located in New Orleans. Two of the SSCs; San Diego and Charleston, are Navy Working Capital Fund Activities, both in the Research and Development business area. SSC Charleston is non-NWCF and SPAWAR ITC New Orleans is currently NWCF but will move to the general mission fund 1 Oct 2001.

382 civilian/military and 932 contractor personnel support the SPAWAR ITC organization. SPAWAR ITC manages 87 programs:

- 66 active navy programs
- 16 reserve navy programs

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- 3 ITC support

- 2 joint programs

- 21 NWCF

Seven customers fund the 21 NWCF projects and are listed in Appendix B. These customers will be approached and asked to continue to receive services through a reimbursable arrangement. Total future years defense plan (FYDP- O&M. RDT&E, OP) $749.7 M (FY02-07).

	O&M	RDT&E	OP
Navy	$376.5M	$63.5M	$49.3M
DIMHRS	$126.6M	$30.2M	$60.4M
NWCF*	$88.1M	0	0

*Will convert to mission/reimbursable workload.

The organization has recently realigned the finance portion moving it from the Business Operations department to the Strategy and Performance Management department within SPAWAR ITC.

> I think this NWCF by itself is too small. When the decision was made to get rid of it, it was the only NWCF in RESFOR. All other commands at RESFOR were mission funded. Compared to SPAWAR, they round to our NWCF budget. [Ref. 15]

2. Task Requirements

Tasks that people are required to perform is the second of the major design factors that influences a group's behavior. The task requirements to be examined are: [Ref. 16]

- Interactions required among people

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- Variety of activities involved

- Novelty or routineness of the tasks, and

- Degree to which the work pace is under an individual's control

To perform effectively, SPAWAR ITC must provide Total Force Navy manpower, personnel and DoD military manpower, personnel, training and compensation products, which largely translates to maintaining legacy systems. At a SPAWAR off-site business development meeting held in late March of 2001, SPAWAR ITC defined their "swim lane", as business systems, non-tactical. The new commander of SPAWAR uses this colloquial phrase to vividly emphasize the importance of the SSC's focusing on the right tasks, requiring headquarters approval to get business outside that lane. In the past, SPAWAR ITC has always made money but, things have changed, the customer base has eroded and the activity now has a negative Net Operating Result to make up this year in the amount of $216,000. ITC is unlikely to be able to make up this dollar amount. Marketing has not been done for the last few years, because it was not deemed necessary. [Ref 15] The funding of these business solutions has been NWCF. As of 1 Oct 2001, they will revert to mission funding and will no-longer be a working capital activity.

Requisite of all NWCF activities and evident in SPAWAR ITC's funding structure is a revolving fund for financing operations based on private industry model. However, private industry model is a profit model.

Part of the problem is the NWCF funds are revenue driven, not profit driven and the difference is – it doesn't matter how good a job you're doing, it just matters how much of a job you do. The pressure on Working funds is to go find more business – increase revenue but there's no measure on the quality of jobs; meaning value to the overall outcome. [Ref. 17]

This revolving fund flows from the Resource Sponsor, N1, for Manpower and Personnel programs, to SPAWAR ITC, without headquarters involvement. Changing to mission funding will change that.

Case in point: Some of our new programs have R&D money. I'm used to controlling our own money, one person would scream for more R&D funds, I would tell another to cut the funding document that day. Now I have to build spend plans and build task orders, write justifications to PD 15 to see if funds can be released to support that effort. That's a cultural change that adds a lot of time. [Ref. 18]

Additionally a customer-provider relationship is to be established and improved upon where it already exists. However, several interviews revealed the provider (SPAWAR ITC) was not allowed by Department of Defense regulations to operate as a business in a market so as to be able to grow due to the 51% rule requiring that percentage of work to be done in- house. [Ref. 19] With the increasing amount of out-sourcing emphasized, it becomes more difficult for a high technology organization to maintain that level of expertise on staff.

Another challenge for ITC is the issue of stabilized rates. The task of determining an NWCF activity rate requires pricing work and billing customers for the total cost of direct labor, overhead, depreciation, taking into account the previous years' profit or loss. Budgets are prepared two years in advance and overhead rates are determined at that time.

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Once these rates are published in budgets, competitive contractors can easily under-bid and win the contract.

> We're trying to figure out our fully burdened overhead rate, trying to develop our government cost models. It hasn't been done in the past for numerous reasons. Until last October, finance didn't report to me; we were two separate commands. NRISO [Naval Reserve Informtion System Office] delivered the products and determined overhead rates; we've had some issues there because one customer is charged one thing, another charged another thing. We're now developing a work breakdown structure- but we don't know what to negotiate from now. [Ref. 18]

The next requirement for a NWCF activity is that rates must be set to break-even over the long-term. This is seen as a disincentive at times when the accumulated operating results are large, because it requires the organization to "lose" money until the balance returns to zero. With NWCF, there must be an accounting system to provide total cost visibility. Standard Accounting and Reporting System (STARS) is the official accounting system used by SPAWAR ITC and qualified users of this system are in place. Records are maintained in a program called Industrial Funds Management Accounting System (IFMS), which is rumored by Mr. Lane of ITC Financial department to be going away, and also within the Budget Formulation Management Accounting System (BFMS). There are 169 applications to support this business function and movement to bring this down to one standard financial system, in what is called a plan to "Kill the ugly babies." [Ref. 18] Work requests or project orders are received and processed, funds are monitored. If there are not enough workers on staff to fill the order, temporary workers are hired. Monthly charge back reports are forwarded to project managers telling them where they are at financially by looking at commitments to obligations and expenditures.

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Project managers see the Net Operating Results of the NWCF. Customers also get monthly reports accounting for fund use. This will not be required for general fund or reimbursable dollars, as there will be a decrease in accounting requirements for the non-NWCF activity. Also under mission funding, the organization will lose flexibility in hiring personnel. Limitations on how many full time equivalent civilian employees are on staff are an obstacle to meeting job requirements.

Appendix B shows the list of potential customers SPAWAR ITC is currently pursuing. The Business Operations director is beginning marketing efforts to drum up business.

> Right now I'm working on Palm Pilot after action reports so you can input on the spot. I was the commander in the Finance command and managed the Exercise money. We set up banking in theater and requested money from the components so it was a joint operation instead of an Army executive agent run operation. One day it's all going to be purple but until then let's build an interface, let's take standard supply systems. Let's take one system, and phase it out and standardize the new system. That's going to put a lot of people out of work. The technology is out there now - we're not inventing anything new. This is a rice bowl issue- and we're selfish; we'd like all the technology work to come right out of New Orleans; that's not going to happen. [Ref. 13]

Management of ITC is mixed on the impact of four new business activities involving Joint Forces Command, Commander, U.S. Naval Forces, Central Command, the Army Reserve and the Joint Task Force Civil Support. Business Operations Director, feels in order to take on this long distance business management function, which is in itself a challenge, does not feel they have the support staff to meet the increased oversight responsibility.

3. People

The third design factor we examine here within SPAWAR is the people who conduct the business of the organization. Appendix C provides an organization chart that shows the human resources available in the firm as well as the numerous vacancies listed. Not shown are the many contractors employed by the organization to meet project goals, hired on a temporary basis to fulfill contractual needs of the project when in-house expertise is not present. Within SPAWAR ITC, functions have been realigned under various other people and units, some of whom have decades of experience in SPAWAR ITC New Orleans, and plan on retiring soon. The Business Operations Director, and the Comptroller are key players who have a wealth of skills and knowledge are leaving soon and will no doubt affect future operations unless highly qualified replacement staff are hired.

Under NWCF, Resource Sponsors have a close working relationship directly with the organization. The staff members we interviewed at SPAWAR ITC prefer local control of funds vice going through another level, i.e. SPAWAR Headquarters, for several reasons. One mentioned previously was the flexibility the organizations used to have in executing funds under NWCF, now lost with the added layer of management. Another benefit of local control is the avoidance of "taxes" headquarters imposes for overhead on the service centers as they execute money.

There's another issue I heard from the other SSC's at the off-site of HQ taxing the SSC's. I understand it's a standard policy. If I have a percentage cut taxed by HQ, my customers are going to scream. We have a great relationship with sponsors. If suddenly I have to tell them or their CIO (e.g. ADM Ryan). We have $10,000 less because big SPAWAR took a chunk because the money flows through them, it's going to be an issue. [Ref. 18]

Lastly, the awarding of contracts was mentioned during interviews as a rationale for local control of funds.

Contracts are awarded once a year, on 1 Oct. When we came under SPAWAR, all of our money was held by PEO IT. Their policy was to dole out money 25% per quarter. We were forced, without being asked our phase plan; our workload quadrupled. Five times we've had to do what normally an activity would have to do once a year. Under RESFOR, we told them our phase plan and money was given out better. It has been cumbersome. [Ref. 20]

C. SYSTEM RESULTS

1. Culture And Management Style

Driving up Lakeshore Drive in New Orleans, Louisiana, one is awestruck with the architectural grandeur of three 100,000 square foot buildings located on a placid lake in the University of New Orleans (UNO) Research and Technology Park that comprise SPAWAR Information Technology Center. More impressive than the physical beauty is the fiscal cost of the impressive structure. The State of Louisiana provided the funding for the construction of the three buildings, the Federal Government provided the funding to outfit the buildings with the telecommunications infrastructure, furniture, and fixtures necessary for operation and UNO leases the buildings to the Department of Defense for $1 per year. Appropriations are written by Congress with language specifying funding to be spent at SPAWAR in New Orleans as well as Congressional plus-up money written specifically for New Orleans ITC. It is common knowledge that the support for this organization is a political issue within the state and region. ITC provides jobs and income for the area.

The director of the organization spoke metaphorically about the organization, likening it to an automobile industry. Through briefings and stories, the Information technology needs of SPAWAR ITC were referred to as analogous to the cottage industry of single–use solutions, transitioning to the Industrial Age solutions of repeatable processes and standardization.

> We are an IT manufacturing company with a warehouse, for example liked a model-T, with repeatable processes in a competency based organization and we run the programs through them. [Ref. 13]

> This is the premise for our organization, that people demand customization. Just as the automobile industry began to demand different colors and styles, our organization sees the need for mass customization and we need to move from the industrial age to mass customization, with the standard being data and information as the nucleus. [Ref. 21]

The industrial age business culture and management style fit the key success factors of this organization, which seeks to perform repeatable processes at this stage of business development.

Regarding the cultural change of losing flexibility over funding decisions as a result of increased SPAWAR headquarters control of funding, there are mixed reviews on the ease of transfer. Some of those interviewed expressed the view that they are comfortable with mission funding and look forward to SPAWAR's "deeper pocket."

> SPAWAR has a much larger pot- so there's a possibility of getting additional funding; it's much better. ADM Gauss has literally carried the torch for ITC. He believes in information technology. He knows what we're going through. [Ref. 20]

Whereas others see Big SPAWAR's oversight a threat to be managed:

> When there's a funding shortfall because there's a budget mark on our money from FMB, we work directly with the customer and tell them the impact and ask if they want to re-stack the priorities. We do this all year because we control the funds. My concern if programmatic money is up at SPAWAR, I lose flexibility to work with the customer because SPAWAR makes the decisions on what gets funded and what doesn't. We don't know how it's all going to pan out next year working through a whole new group of people that we didn't have to go through before. It's a little scary. If our customers sense there's another level of adult guidance, there's going to be an issue.[Ref. 18]

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2. Outcomes

In FY 2001 ITC is supposed to make $216,000 to recover prior year losses and bring the Net Operating Results to zero at this Navy Working Capital activity, as noted. The major source of appropriated funds, O&MN, was underfunded this year per ITC Comptroller. [Ref. 20] The customer base is eroding, as the primary product for this organization is maintenance of and solutions to legacy manpower and personnel systems. There are numerous staff vacancies making productivity lower. However, production quality is good. The small customer base does not lend itself to NWCF because the concept of the working capital funds is that there must be a customer – provider relationship and there must be customers who will buy the product. [Ref. 22]

In the next chapter we will examine SSC Chesapeake and SPAWAR ITC side by side to better compare the funding methods and envision alternatives. We will attempt to provide a gap analysis comparing where the SSC's currently are, compare that to where they need to go and what suggest the actions that could possibly close the gap.

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IV. ANALYSIS OF ALTERNATIVE FUNDING METHODS

Funding alternatives for SPAWAR is the subject of this chapter. However, in order to proceed, it is important to clarify terminology and set forth definitions of the following terms, "mission funding", "reimbursable funding", and "Navy working capital funding".

A. DEFINITIONS

1. Mission Funding

Mission funding is also known as appropriation funding. The Department of Defense (DoD) budget is one portion of the federal budget. National Defense is only one of twenty budget functions in the federal budget, which are simply breakdowns of how spending is categorized in the federal budget. An appropriation is the authority provided by an Act of Congress to incur obligations for specified purposes and to make payments out of the Treasury. Appropriations are classified in several different categories based on their purpose, duration and amount. All appropriations not only specify the amounts available for obligation, but also the purposes for which they are intended.

Appropriations are categorized as annual, multiple year or no-year for duration. Annual appropriations can be used only for incurring obligations during the fiscal year specified in the appropriation act language. Multiple-year appropriations are available for incurring obligations for a specified period of time in excess of one fiscal year. Shipbuilding and Conversion, for example is five years in length. These appropriations

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are fully funded but the apportionment process controls the release of funds. No-year appropriations, or continuing appropriations includes working capital funds. Appropriated funds flow from Resource Sponsors to headquarters then down to system center commands for execution.

2. Reimbursable Funding

Reimbursable funding is the mechanism to fund situations when an activity requires support from another activity, and the activity does not have the in-house expertise or assets to provide itself with the goods or services that it requires. Reimbursable situations have a customer - provider relationship and result in lateral transfer of budget authority from the customer to the provider. Reimbursable amounts are to be kept separate and accounted for separately from operating budgets. The customer initiates the process by submitting a reimbursable work order; the provider accepts or rejects the request based upon available assets. If the provider can perform the requisite 51% of the work requested with in-house resources, per Financial Management Regulations, job order numbers are set up, the work is performed and obligations are entered. A status report is sent back to the customer.

3. Navy Working Capital Funding

The Navy Working Capital Fund (NWCF), consists of business areas that are managed by DoD components for providing goods and services, on a reimbursable basis, to other activities within the DoD and to non-DoD activities when authorized. Business

areas receive their initial working capital through an appropriation or a transfer of resources from existing appropriations of funds and use those capital resources to finance the initial cost of products or services. Financial resources to replenish the initial working capital and to permit continuing operations are generated by the acceptance of customer orders. All costs are visible in the Working Capital Fund: direct costs, indirect costs, and general and administrative (G&A) costs. As work is accomplished, the revolving fund activity uses Working Capital Fund (WCF) cash to pay for the costs of performing work or providing material. Customers are then billed based on stabilized rates and prices, and the customers reimburse the WCF, replacing the cash. The fund "revolves" with an annual goal of a net operating result of zero – all costs covered and no profit retained. [Ref. 23] The Navy's goal is a business management structure that encourages managers and employees of Navy support organizations to provide quality products and services at the lowest cost. If NWCF activities fail to break even, due to higher than anticipated expenses or slower development of revenue, subsequent year rates must be raised to cover losses and maintain an adequate cash balance for bill payments and capital investments. Effective management of cash at all levels provides for stable rates and prevents over obligation of funds, or a failure to fully obligate funds authorized.

B.   GAP ANALYSIS OVERVIEW

Over the long run, superior performance depends on superior learning. A study by the Shell Oil Company showed that, "...a full one third of the Fortune 500 industrials listed in 1970 had vanished by 1983." [Ref. 24] While today, the average lifetime of the

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largest industrial company is most likely less than half the average lifetime of a person in an industrial society. In contrast, the Shell study also found that a small number of companies lasted for 75 years or longer. Interestingly, the key to their survival was their knack to run "experiments on the margin," to continually explore new business and organizational opportunities that created potential new sources of growth. [Ref. 25] [Ref. 26]

In today's fast-paced information age, SSC Chesapeake and SPAWAR ITC must understand how organizations learn and realize that the need for accelerating that learning is greater today than ever before. In today's increasingly dynamic, interdependent, and volatile world, it is plainly no longer possible for any organization to, "...figure it all out at the top." The old model of the top making decisions and the bottom acting out these decisions must give way to integrated thinking and acting at all levels. Even though the challenge is great, the potential payoff is greater. "The person who figures out how to harness the collective genius of the people in his or her organization is going to blow the competition away." [Ref. 27] This is the current task at hand for not only SPAWAR Headquarters, but for its developing field offices as well.

The framework we choose to examine the two SPAWAR field offices is a gap analysis model, taken from Peter Senge's, *"The Leader's New Work: Building Learning Organizations"* which involves reviewing the current state, envisioning a future state and suggesting options to close the gap.

C.   REALITY – WHERE THE FIELD OFFICES ARE NOW

Leadership in learning organizations starts with the principle of creative tension, which comes from seeing clearly where the organization wants to be and telling the truth about where they currently are." [Ref. 28].   That gap generates a natural tension, which, Senge suggests, can be resolved in two ways: by raising current reality toward the vision, or by lowering the vision toward current reality. We firmly believe the way ahead for the two SSC's demands an elevation of current thinking about the vision.

1.   SSC Chesapeake

Chapter two of this thesis described much of the current reality for SSC Chesapeake's funding situation, but will be analyzed further here. SSC Chesapeake's mission of logistic support for the Navy's ships, submarines, and aircraft demands reliable and responsive business information systems.   One of the most important functions SSC Chesapeake must accomplish to perform this mission effectively is to properly manage funds received to correctly support the 350 ships and submarines and 450 fleet support organizations which are its customers. According to comptroller and financial accounting personnel at SSC Chesapeake, this task is not accomplished smoothly due to challenges within the current funding system. The current funding process has two different types of funds, mission and reimbursable, trickling in from a host of customers and sponsors around the globe. SSC Chesapeake must streamline and solidify its funding structure and process in order to effectively and efficiently service its customers in the face of upcoming further BRAC rounds.

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The management and bookkeeping nightmare of keeping 250-300 different sets of accounting records further shackles the funding problem at SSC Chesapeake. The current DoD requirement is to keep a separate file on each reimbursable document. That translates to SSC Chesapeake's financial personnel tracking and maintaining 250 to 300 files for each of their customers who contribute funds through reimbursable documents. Even though the method of maintaining reimbursable files provides a more effective means of tracking individual project cost visibility, SSC Chesapeake can hardly expect to survive the transition into the information age with its current approach to funds management. A move to a NWCF operation would only add an additional layer of bureaucracy to the current process. There appears to be no value added in a move to a NWCF operation.

These funding difficulties alone present justification as to why SSC Chesapeake should not be considered as a NWCF activity. SSC Chesapeake cannot hope to compete against high tech commercial enterprises with the additional accounting requirements that accompany a NWCF activity. SSC Chesapeake further does not meet the criteria to become a NWCF activity due to its customer's inability to influence costs by changing demand due to the fact that SSC Chesapeake is more or less a monopoly provider of software to its customers. Furthermore, a portion of current SPAWAR funding would need to be reprogrammed to customers to fund overhead costs for civilian labor they do not currently pay for. It has been thought that this will save OMN salary dollars but this money would simply be given back through reimbursable documents. Customers would

also be required to pay for military labor. "Without market efficiencies, NWCF actually costs the government more money and should be avoided." [Ref. 29]

The question that then comes up is which, if any, of the current business centers at SSC Chesapeake could be shifted to NWCF. The primary reason that SSC Chesapeake cannot break out a portion of its business areas to be managed under NWC funding is the fact that all of the business at SSC Chesapeake is intricately intertwined. If one of the business areas were to be removed the entire organization would be unable to continue to interface and operate. The only exception to the above rule would be the MicroSNAP business area, formerly know as Code 90. MicroSNAP is comprised of several major subsystems:

a. *Micro SNAP Organizational Maintenance Management Subsystem (MicroSNAP OMMS)*

MicroSNAP OMMS manages organizational level equipment configuration, equipment maintenance, and associated logistics support data. This data enables overall visibility and evaluation of the key factors associated with maintenance and material management, such as equipment reliability, maintainability, availability and condition; part demand data; and maintenance man-hours.

b. *MicroSNAP Maintenance and Operation Support Subsystem (MicroSNAP MOSS)*

MicroSNAP MOSS manages Vehicle Inventory, Maintenance, and Operations. This application allows for the scheduling of Preventive Maintenance as well as recording Corrective Maintenance. This application can be configured to operate as a single unit or it can be divided into two separate applications, one for Maintenance, and the other for Operations. Additionally, it operates on a stand-alone PC or on a local area network. MicroSNAP MOSS also provides an interface with the MicroSNAP Supply and Financial Management (SFM) application.

c. *MicroSNAP Supply and Financial Management Subsystem (MicroSNAP SFM)*

MicroSNAP SFM manages material requirement, requisition, receipt, inventory, and financial data. MicroSNAP SFM reduces labor-intensive supply functions, improves data accuracy, and yields a higher degree of supply department effectiveness.

d. *MicroSNAP Custody Tracking Subsystem (MicroSNAP CTS)*

MicroSNAP CTS automates the issue, turn-in/rotatable pool, and custody tracking processes. MicroSNAP CTS works in conjunction with the MicroSNAP Supply and Financial (MicroSNAP SFM) application. The application will operate on a stand-alone PC or on a local area network.

MicroSNAP is possibly the only SSC Chesapeake business area that could be switched to a NWC funded activity and has the requisite large customer base big enough to support a Navy Working Capital Fund. It is also clear that these current military systems could easily be adapted to the commercial industry due to similar application uses.

2. SPAWAR ITC

Eight months ago SPAWAR ITC in New Orleans became an Echelon III Field Command under SPAWAR, with authority transferring from the Naval Reserve Force (COMNAVRESFOR). Of the people that were moved to SPAWAR from COMNAVRESFOR on 1 Oct 2000, 90 people were NWCF and the remaining 300 people were all mission funded. They currently operate both mission and NWCF funds and the dominant fund will prevail as the NWCF has been non-profitable and will convert to general mission fund (O&MN) on 1 Oct 2001. [Ref. 30] Of the 90 working capital fund personnel, there are only 73 currently remaining, and most of them are being paid on overhead vice direct work. The ITC Navy Working Capital fund currently serve seven

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customers in the Information Services activity group via this funding mechanism and have an annual NWCF budget of approximately $12 million. The products provided to customers are funded by Resource Sponsor N1, and are within the scope of acquiring, engineering, operating and maintaining Manpower, Personnel, training and compensation systems, most of which are proprietary information legacy systems. But these customers do not generate adequate revenue to cover the costs associated with running a WCF and are not anticipated to recover losses prior to the closure of the working capital portion.

The ITC has reorganized to meet the future challenges, realigning the finance function under Strategy & Performance Management, taking responsibility out of Business Operations. Other funding preferences and issues detailed in chapter three are listed again below:

- ITC's preference for local control of funds without headquarters involvement.

- Constraint of Financial Management Regulation rule requiring 51% of work to be done in-house.

- Difficulty of executing plans based on stabilized rates developed eighteen to twenty four months prior.

- The activity has a negative Net Operating Result of $216,000 this year and, if it were to remain a NWCF activity, would have to raise rates charged to recoup this loss from a shrinking customer base.

Underlying all of this is the extraordinary force of Moore's Law: the observation first made by Gordon Moore, then chairman of Intel, that every eighteen months it is possible to double the number of transistor circuits etched on a computer chip. [Ref. 31] This law has prevailed for the past fifty years and is likely to prevail for the next fifty

years according to some of the world's leading experts. [Ref. 32] To anyone involved in information technology, this has wide implications as every five years there is a tenfold increase in memory and processing power, a hundredfold every ten years, a thousandfold every fifteen. To ITC, this implies they are a "dog chasing it's own tail" in the sense that they develop software to meet user requirements, only to find out those requirements have changed. The Navy Standard Integrated Personnel System (NSIPS), which is an AIS designed by the ITC to collect the personnel and pay data for all Navy members, has been nicknamed, "N-SLIPS", because of schedule delays in program development as developers constantly receive new requirements that previously weren't technologically possible, but with Moore's Law in effect, technology becomes obsolete before the acquisition program is fielded, as is the case with NSIPS. [Ref. 33]

D.   VISION – WHERE DO THE FIELD OFFICES NEED TO GO

This rapid pace of change makes building a vision difficult, but not impossible. Collins and Porras suggest companies that enjoy enduring success have a core purpose and core values that remain fixed while their strategies and practices endlessly adapt to a changing world; principally their vision has two parts: core ideology and envisioned future. [Ref. 34] Jick suggests, *"The Vision Thing"*, also the title of his article, has become a major preoccupation in the past decade in both the corporate and the political areas [Ref. 35] Leadership in a learning organization, at SSC Chesapeake and ITC New Orleans, recognizes that without vision there is no creative tension.

1.   SSC Chesapeake

Comptroller personnel at SSC Chesapeake envision a funding system that provides the majority of, if not all, funding from a single mission funded source. Funding from a single mission funded source, ideally SPAWAR Headquarters, would simplify the process of SSC Chesapeake meeting its mission of effectively supporting its customers well into the information age. [Ref. 36]   Realizing the impossibility of completely mission funding SSC Chesapeake, it seems a distinction must be made between new programs and maintenance and upgrade of those programs and secondly, non-routine projects. Non-routine project orders funded by reimbursable funding methods should occur and those mentioned as routine should be mission funded.

Mission funding, largely from a single source would also lessen the accounting records required to be maintained for reimbursable work that SSC Chesapeake performs for other government activities. The DoD requirement to maintain records, which enable the separate control and reporting of the transactions from each reimbursable funding source, would be less of an issue with fewer reimbursable projects. SSC Chesapeake senior financial personnel also possess a great deal of corporate knowledge concerning the maintenance of reimbursable documents. In the case of downsizing and retirement, it is in SSC Chesapeake and SPAWAR Headquarters' best interest to simplify the current process.

The move away from a split funding structure, which includes funds from both mission and reimbursable sources, while appealing to SSC Chesapeake due to ease in

book keeping requirements, does not provide the project specific cost visibility for information technology desired by SPAWAR Headquarters. It is unlikely that SSC Chesapeake will be able to maintain its current customer base if forced to move to a NWCF charter due to an increasingly competitive commercial industry. Therefore, SPAWAR Headquarters agrees to support SSC Chesapeake through mission funds to cover overhead costs, but prefers that SSC Chesapeake recoup its costs for actual work performed from its customer base through reimbursable documents.

2. SPAWAR ITC

As the incumbent producer of Manpower, Personnel and Compensation legacy systems for the Navy, SPAWAR ITC faces a massive competitive disadvantage precisely because they are incumbents. They are saddled with legacy assets- not just old mainframe systems, but outdated distribution systems, bricks and mortar, brands and core competencies. Competencies in the face of the new economics of information requires cannibalizing those assets, perhaps even destroying them [Ref. 37] Evans and Wurster suggest insurgents are advantaged by their lack of legacy systems, legacy assets, and a legacy mindset. Having nothing to lose becomes an advantage, requiring SPAWAR ITC to work incredibly hard at capturing and gaining a business niche within the non-tactical business systems business base within DoD.

The ITC vision is to be a leader in providing integrated results-based IM/IT business solutions. [Ref. 38] Their vision is tied to the industrial age model of interchangeable parts and repeatable processes. Henry Ford struggled with the cost and

difficulty of coordinating large-scale, complex operations, but solved the problem through proprietary information systems and hierarchic control. This gave rise to the vertically integrated value chain, defined as the sequence of activities that a business performs to design, produce, market, deliver, and support its product [Ref. 39] But we live in an increasingly information-intensive economy, and it is the information and the mechanism for delivering it that underlie much of what defines business boundaries and creates new value chains.

In Griffith and Palmer's strategic article for e-commerce environments, *"Leveraging the Web for Corporate Success"*, technology is said to create a "virtual" value chain. It is formed when the traditional chain is altered to bypass the intermediaries and allow consumers to reach producers directly. [Ref. 40] Increasingly, customers will have rich access to a universe of alternatives with the spread of connectivity and common standards. In the era of Henry Ford, a trade-off had to be made, forcing business strategy to focus on "rich" information- customized products and services tailored to a niche audience- or could reach out to a larger market, but with watered-down information that sacrificed richness in favor of broad, general appeal. Evans and Wurster warn of a fundamental change in business competition as competitive advantage is up for grabs as this trade-off is "blown to bits". ITC New Orleans must therefore leap beyond the linear, industrial age concept of "major processes flow(ing) through the organization, (where) the competencies perform various activities for each, much like an assembly line concept of repeatable events" [Ref. 41]; they might do well to envision two separate battlefields; one focused on the information flow and one on the specific physical functions. Neither

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of these should involve maintenance of legacy systems. The shrinking customer base tells us ITC cannot continue to function as a NWCF activity. Residual accounts need to be established and close the working capital fund as required by the OPNAVNOTE. [Ref. 42] The funding of ITC's future should be mission funded from O&M, N appropriations that flow through SPAWAR headquarters for the overhead support of general administration of operations of ITC with reimbursable dollars recouped as project orders and work requests are accepted. With the flow of funds going through headquarters, they are better positioned to defend ITC's financial interests.

E.   CHANGES NECESSARY TO CLOSE THE GAP

1.   SSC Chesapeake

The solution to SSC Chesapeake's complex funding issues and labor-intensive accounting requirements seem simple. The case for a single source of mission funding is a strong one that could potentially solve all SSC Chesapeake's concerns in one fell swoop. It is the one thing that Comptroller personnel said they would change about the organization if given the chance. The question then becomes how to make a transition from the existing funding structure to one that is more acceptable to both SSC Chesapeake and SPAWAR Headquarters. This is needed while keeping in mind that SSC Chesapeake is trying to get away from its current cumbersome accounting requirements, while SPAWAR Headquarters wants to continue to maintain high costs visibility.

A possible solution to the difference in funding products between SSC Chesapeake and SPAWAR Headquarters might be a hybrid of the current mixed mission and reimbursable layout. SPAWAR Headquarters may be willing to drop accounting requirements by providing mission funding for all of SSC Chesapeake's customer requirements that fall into a certain dollar threshold or visibility level. A possible solution might be for Headquarters to provide mission funding for all ACAT Level I and II programs, all Systems Command (NAVAIR, NAVSEA, NAVSUP, SPAWAR) projects, and any project that would have reimbursable costs in excess of $100,000 annually. All of these jobs are high visibility by their nature and costs are automatically considered.

In order to make this transition a reality, a reorganization of the funding presently received by customers served by SSC Chesapeake would be necessary. The funds currently provided to the 350 ships and 450 shore installations which SSC Chesapeake now does reimbursable work for would need to be reevaluated, with those meeting the above criteria for mission funding reprogrammed to SPAWAR Headquarters. SPAWAR Headquarters would in turn be required to provide funding to SSC Chesapeake for all overhead expenses as well as any cost incurred from customer work performed that meets the discussed thresholds. This will allow all of the above-mentioned customers to request software work from SSC Chesapeake and have it completed without the hassle of reimbursable paperwork. The removal of a large portion of the current accounting requirements will free up SSC Chesapeake financial personnel to more effectively and efficiently plan the jobs necessary to support the customer. ACAT III and IV programs,

and programs that did not meet the $100,000 annual threshold would continue under the present reimbursable accounting system. These parameters could be negotiated and this plan reviewed annually to continually explore new business and organizational opportunities that create potential new sources of growth.

2. SPAWAR ITC

Ongoing marketing efforts reveal motivation to raise current reality thinking toward their new vision at SPAWAR ITC. Headquarters created the atmosphere for business development recently at an Off-Site meeting held with all the SSC's in attendance. This type of communication across and within organization boundaries builds learning opportunities for these organizations. Senge tells us leadership's new work is that of designer, teacher and steward in a learning organization. [Ref. 25:p. 445] Evidence suggests SPAWAR ITC is thinking outside of the box and expanding the horizons of capturing new business. If this is to be successful, given mission funding of overhead and reimbursable funding recovered for service support, several opportunities exist for easing the way ahead:

a. *Financial Management:*

In support of Better Business Practices and DoD Reform, which began in 1997, the Department is streamlining and overhauling its financial management business area to save money and ensure prudent decision making and superb customer service. Outdated finance and accounting systems are being consolidated and modernized.

Processes are becoming increasingly electronic and paperless, while concurrently strengthening internal controls. Whether SPAWAR ITC is funded NWCF or mission funded by congressional appropriations, better accounting practices will foster improved efficiencies.

b. Competition:

Competitive sourcing is a critical enabler for defense reform that examines functional processes and procedures and provides market mechanisms to improve quality, reduce costs, and respond to customer needs. Financial Management Regulations requiring reimbursable work to be completed with 51% of in-house assets is contrary to the spirit of competition and should be waived. Organizations should be allowed to out-source as necessary to achieve cost efficiency. Also, to remain competitive, the command should have the option of changing their rates after they are set. With rates pre-determined 24 months prior, NWCF activities are not flexible enough to capture business by lowering rates.

F. STRATEGIC PLANNING INTO THE FUTURE

Successful organizations shape their business strategy as they continually learn about shifting business conditions and balance what is desired with what is possible. The key is not getting exactly the correct strategy but advancing strategic thinking. More important is the need to achieve insight into the nature of the complexity and to formulate concepts and broad views of coping with it. Only when the entire organization,

leadership and all staff reconceptualize their basic objective as fostering learning rather than devising plans will their insights begin to have an impact on the desired mission. [Ref. 25:p. 445] [Ref. 26]

1.   Implementation Resistance

Organizational change efforts often run into some form of human resistance and major change initiatives often fail. Those failures have at least one common root: executives and employees see change differently. For senior managers, change means opportunity- both for business and for themselves, but for many employees, change is seen as disruptive and intrusive. [Ref. 43] To predict what form resistance might take, leaders and managers need to be aware of the four most common reasons people resist change. These are: a desire not to lose something of value, a misunderstanding of the change and its implications, a belief that the change does not make sense for the organization, and a low tolerance for change. [Ref. 44] When people think they will lose something of value when organizational change occurs, many people focus on their own best interests and not on those of the total organization and resistance often results in "politics". For example, if ITC believed changing from NWCF makes them lose their entrepreneurial business identity, some individuals might not sign required documents that conceptualize the operations (CONOPS) of the transfer from NWCF to Mission funding. While political behavior sometimes takes the form of two or more armed camps publicly fighting things out, it usually is much subtler. In many cases, it occurs completely under the surface of public dialogue.

People also resist change when they do not understand its implications and perceive that it might cost them much more than they will gain. This may be partially misunderstanding and partially lack of trust. This is the case with SSC Chesapeake; they believe they administer a great deal of accounting work with their current reimbursable projects and believe a switch to NWCF to be exponentially more difficult, when in reality it may be equal work, but the implications of cost visibility might drive innovation to reduce costs and better serve the tax paying public. Lastly, people often resist change because they fear they will not be able to develop the new skills and behavior that will be required of them. Peter Drucker has argued that the major obstacle to organizational growth is the inability of managers to change their attitudes and behavior as rapidly as their organizations require. [Ref. 45] As alluded to in the case of ITC, the rapid pace of technological change requires post - industrial society thinking in an industrial organization. The new economics of information constantly require new skills and some human beings are limited in their ability to change and resist even good changes. Change, by definition, requires creating a new system, which in turn always demands leadership.

2. Overcoming Resistance to Change

Much has been written on how to deal with resistance to change; Kotter's <u>Leading Change: Why Transformation Efforts Fail</u> [Ref. 46] gives a decades' worth of observations of over 100 companies who, by and large, failed to cope with a new, more challenging market by changing how business is conducted. He enumerates an eight step

process to transform an organization: 1) Establish a sense of urgency, 2) Form a powerful guiding coalition, 3) Create a vision, 4) Communicate the vision, 5) Empower others to act on the vision, 6) Plan for and create short-term wins, 7) Consolidate improvements and produce still more change, and 8) Institutionalize new approaches. Kotter's process is somewhat of an expansion on one of the first models proposed by Lewin (1952) in his analysis of planned change. Lewin's three step process involves 1) Unfreezing behavior and creating motivation to change, 2) Changing and developing new attitudes and behaviors on the basis of new information and cognitive redefinition and 3) Re-freezing, which stabilizes the changes. The issue at hand is how to succeed at overcoming organizational resistance to change and sufficiently motivate support for change.

One of the most common ways to overcome resistance to change is to educate people about it before hand, assuming a good relationship between initiators and resistors, or the latter may not believe what they hear. SPAWAR's size requires a good deal of time and effort in order to reach all members involved. If headquarters involves the potential resistors in some aspect of the design and implementation of the change, they may forestall resistance. Another way to deal with resistance is by offering support. The SPAWAR business development off-site held in March of this year is a good example of initiators creating the forum for listening and providing support while reinforcing the desire for change. Another way to deal with resistance is to offer incentives to potential or active resistors. If, for example, ITC managers were allowed to change their rates and data revealed they captured more business as a result, managers could be offered a percentage of growth financial incentive award. Or, if the finance department became

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compliant with new accounting software ahead of schedule, they could share in a financial bonus or receive time-off awards. In some situations; however, management must resort to manipulation or coercion in order to implement the change. Manipulation would involve restricting access to information to a select few and consciously structuring events. Having no other alternative, and not enough time to educate, involve, or support people, and without the resources to negotiate, managers could manipulate information channels in order to scare people into thinking, for example, a BRAC crisis is coming which can only be avoided by changing.

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V.   SUMMARY AND CONCLUSIONS

A.   SUMMARY

Chapter I provide the background for the thesis.   It analyzes the strategic difference between congressionally appropriated and reimbursable funds, providing the reader with an understanding of the different funding methods before embarking on the remainder of the thesis.   It explains in simple terms today's world of declining fiscal resources and why it has become imperative to maximize shrinking defense dollars to protect American security interests and preserve a strong and ready military by investing in our people, maintaining readiness and accelerating modernization.   It describes the history, current state, and mission of SPAWAR Headquarter, and explains the rationale behind the analysis of the funding systems at its System Service Center in Chesapeake, Virginia, and its Information Technology Center in New Orleans, Louisiana.

Chapter II describes and analyzes the SSC Chesapeake organization through the use of McCaskey's framework for analyzing work groups as open systems.   It covers the external environmental factors facing SSC Chesapeake after BRAC and looks at the future of the organization.   Chapter II also examines SSC Chesapeake's organizational design factors to include its required tasks, financial and accounting personnel, technology issues, organizational structure, and its funding process and operating budget. Roughly 50% of their work is paid for through reimbursable funds and the other 50% is mission funded.   Finally, Chapter II discusses the culture that has emerged at SSC

Chesapeake and the outcomes of the culture with regard to goods and services produced there.

Chapter III uses the McCaskey model to analyze SPAWAR ITC. Even though both SSC Chesapeake and SPAWAR ITC are both SPAWAR field offices, it is evident that these are two very different commands with very different missions. Chapter III clearly shows the different external environmental and organizational design factors facing SPAWAR ITC as a new addition to the SPAWAR family, having formerly been a Naval Reserve Force activity that was funded by the Navy Working Capital Fund. ITC will become a general fund (O&M.N) and cease to be a working capital activity on 1 October 2001. Their management philosophy and business base is industrial-age in nature and with revenue losses mounting, it seems apparent they need to change the way they capture and do business in an information economy that is rapidly changing. SPAWAR ITC is a newly acquired organization that needs to carve a niche for itself in the DoD marketplace.

Chapter IV analyzes the funding structure at both SSC Chesapeake and SPAWAR ITC. It goes through a "gap" analysis beginning with the current state of each organizational reality, followed by the desired state of each organization and its vision, and then investigates what the organizations need to do to bridge the "gap". Throughout this thesis we have set apart appropriated and reimbursable funding in an effort to determine which is most appropriate to support work of various types in the Space and Naval Warfare Systems Command. In Chapter IV the desires of Headquarters are evaluated in comparison to those of each of the Echelon III field command studied.

B. CONCLUSIONS

Based upon extensive review of both SPAWAR System Centers Chesapeake and ITC New Orleans, we find evidence to support that there are faster, cheaper and more effective ways of making and executing funding decisions at SPAWAR.

The funding method at SSC Chesapeake has been reviewed several times in the past to determine if they should become a working capital activity. Evidence reveals they should remain largely mission and reimbursable funded with a focus on increasing mission funding while decreasing the reimbursable workload. [Ref. 9] The only possible exception is the MicroSNAP business area that could be considered for funding through working capital. The majority of products created by SSC Chesapeake are proprietary items for military and DoD customers for which there is no demand outside of the these activities, as required of NWCF. With this monopoly on the market, mission funding augmented by reimbursable work is the appropriate means to fund their business. A possibility for improvement potentially exists within the MicroSNAP business category at SSC Chesapeake, however. There is market demand for this product and they should compete for this business with the goal of innovating and improving this product to meet future needs of the Navy. The management of this NWCF should be aligned with SSC Charleston, a NWCF activity that has a detachment in Norfolk. This would not require the movement of personnel, just a change in whom they report to, similar to what is being done at the Naval Computer and Telecommunications Command, whose major claimant transferred the WCF activities under their charge to SPAWAR for management, leaving

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the NCTC activities remaining as all mission funded. The six NCTC WCF activities were all losing money with no hope of recovery, but with hopes of efficiency of scale and corporate knowledge gained from profitable NWCF accounts, the merger into SSC Charleston and SSC San Diego could be a winning proposition. Further incorporation of the MicroSNAP business area into SSC Charleston from the SSC Chesapeake business base as a WCF will likely add efficiency to SPAWAR.

SPAWAR Systems Center New Orleans should not continue to be NWCF activity, per CNO direction. It loses money and cannot continue to attempt to recoup revenue in follow-on years by raising rates to a shrinking customer base. As an information technology development center, the NWCF is not a good fit for this organization as they are disadvantaged by the lengthy acquisition process that requires programs to be planned, programmed and budgeted for, years in advance. Outdated programmed and budgeted technology solutions never keep pace with current customer needs, much less ever meet the future needs of the customer. Stabilized rates developed long ago need flexibility for the NWCF activity to remain competitive. The Financial Management Regulation 51% rule needs to be waived requiring that percentage of work to be accomplished with in-house assets for the reimbursable work. Outsourcing trends dictate looking at alternative means of meeting customer needs.

ITC is pursuing marketing innovations to generate new business. Business Operations department personnel are brainstorming enterprise solutions to meet the future business needs of the DoD. To meet these needs, we suggest they maximize their competitive advantage by looking beyond the Industrial solution of repeatable processes,

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standardization and hierarchical controls. In this post-industrial age, and especially for technology development activities, dependencies between workers are not sequential. Rather, they are pooled, requiring much more learning at all levels and less rigid coordination mechanisms. Senge suggests leaders create superior learning organizations to meet the rapid pace of change to become superior performers. The work for ITC is to design the most effective organization to meet their future needs, teach major stakeholders, and continue to be effective stewards of their responsibilities.

The method to fund these solutions should be through mission funding and reimbursable work requests. Headquarters should ensure enough mission funding is in place to cover overhead costs, but ITC should recoup expenses from reimbursable work as well. Entrepreneurial spirit will help ITC to grow, without undue fear of lack of sufficient coverage to remain alive financially. Perhaps funding decision authority should be passed to the Commander of SPAWAR for improved visibility and support of business activity.

C.   SUGGESTED FURTHER STUDIES

1.   Develop a Knowledge Management System to Retain Corporate Knowledge

It was readily apparent throughout the course of the thesis research process that both of these organizations are run by a few key individuals who have been around the system for a very long time. The success and smooth operation of the funding and budget process is often due to the corporate knowledge of a single individual. Oftentimes the

individuals possessing this knowledge are close to or already retirement eligible. Another concern is the fact that these field offices, SPAWAR ITC in particular, are constantly undergoing internal reorganization.

A valuable research project would be to design and create a way for SPAWAR field commands to produce a corporate knowledge database. This would provide a knowledge bridge in the case of a structural reorganization or an unanticipated retirement. It would also help SPAWAR Headquarters better understand what is happening and how things work at its various field offices. It would certainly require the support of those currently possessing the corporate knowledge in order to create such a database. However, it could prove to be a very useful training tool as well as insurance against time wasted trying to reinvent a known system.

2. Strategic Mission Planning

Clearly each of the SPAWAR system centers that have been evaluated have numerous customers, projects, and tasks to accomplish. This can often distract and detract from SPAWAR Headquarters' desired mission goals. The term "rice bowl" came up a lot during our interviews and that means that everyone is not functioning as a team. Not only does this waste resources, but it does not produce the outputs desired by customers. Better strategic planning between SPAWAR Headquarters and its field offices could go a long way to allowing the overall SPAWAR organization to identify and meet its strategic goals.

This process could be accomplished through offsite meetings, possibly mediated by research assistants with attendance by decision-making personnel from SPAWAR Headquarters as well as each of the field commands. The team would not need to spend a great deal of time developing a mission statement and organizational vision as one already exists. The purpose would be to identify the top three to five key issues facing the SPAWAR organization as a whole. The only criteria would be that the issues need to be clearly identifiable and the issues must be something that SPAWAR can do something about. Decisions are made almost immediately and plans put into action as soon as that day. The research could track the progress of the developed priorities over the course of a period of time, e.g., four to six months, and then evaluate how well the SPAWAR organization as a whole is meeting its objectives.

3. Cost Benefit Analysis of Commercializing SSC Chesapeake

A potential future thesis topic might be to do a Cost Benefit Analysis of commercializing SSC Chesapeake and SPAWAR ITC entirely. There appears to be no reason that everything the organization does could not be contracted out to commercial contractors. SSC Chesapeake was already hit on the last round of BRAC and with another round of BRAC immanent, Chesapeake could be wiped out all together. Commercialization would, in effect, be a preemptive strike against annihilation.

D. ADDITIONAL SPAWAR STRATEGIC PLANNING AND RESEARCH ISSUES

Some additional areas for future thesis research and SPAWAR strategic planning areas are offered in addition to the suggested areas for future study. These areas were not analyzed in the body of the thesis because there are no current business products offered to the public. The areas are suggestions for implementations SPAWAR might consider in the future if it wishes to expand its commercial customer business base.

1. Relational Data Bases

Every company needs databases concerning the products and services they provide. SSC Chesapeake or SPAWAR ITC could build a relational database for most companies in a couple of weeks. SSC Chesapeake could provide something very similar to the Relational Supply database they have already fielded. Relational simply means that when you enter some piece of data (part number, e.g.), the data base comes up with all possible information on that piece of data (price, manufacturer, maintenance requirements, etc.). There are no holes in the information provided, hence all the research that is desired is provided. This is one stop shopping. This business area could financially support itself because the customer base would be nearly infinite in the commercial sector.

2. Networking Services

This is something that almost every commercial business needs. Networking Services/Solutions are in high demand as seen by the recent nationwide interest in CISCO

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Systems. This is something that SSC Chesapeake or SPAWAR ITC may be able to do in the commercial sector. It may also be a candidate for survival as a NWCF activity as it would likely be able to financially support itself. Due to personnel limitations the SPAWAR Field Offices may have to start out with smaller businesses doing consulting type work, but they could grow their personnel base as their business base grows.

3.   Smart Card Technology Systems

This technology is currently being used in other countries (Singapore for example - Everything about a person is imbedded on a microcomputer chip in one card. Dental, Medical, Work History, Credit, Banking, etc.). Smart Card Technology has been talked about throughout the Navy for many years now. Research and development could be done by SSC Chesapeake to field the product Navy wide then offer it throughout the services and eventually to any and all interested commercial corporations. Any company using the Smart Card Technology would automatically require Relational Data Base services as well as Networking Services to operate the program and access information.

4.   Aviation Programs

NALCOMIS is an automated Management Information System (MIS) developed by SSC Chesapeake that provides aviation maintenance and material management with timely, accurate and complete information on which to base daily decisions. It is a single, integrated, real-time automated system that supports workers, supervisors and managers. It is an automated source data entry device for simplifying and improving data collection.

This modern MIS also provides data inputs to and interfaces with other support systems in the Naval aviation community. It increases aircraft readiness by providing local maintenance and supply managers with timely and accurate information. It also reduces the administrative burden on the fleet while improving the quality of reported data. This is certainly something that any commercial airline, large or small, would be interested in. Even though an airline may currently have a similar system in place, today's competitive airline industry is always looking for any potential cost reductions. This product will undoubtedly generate a great deal of interest. If enough airlines were interested in the product the funding would be available to potentially support a NWCF activity.

5.   Enterprise Resource Planning (ERP)

ERP is said to be the largest threat to SSC Chesapeake. SAP, Commerce One and Oracle have made billions of dollars on it; it seems that SSC Chesapeake should consider getting into the ERP business themselves? The Navy itself is spending millions of dollars on ERP in an effort to allow the use of commercial products to map and run current Navy programs. The use of ERP will eliminate the need for unique software development. Instead of watching they become obsolete, SSC Chesapeake should adapt to changing times. SSC Chesapeake could easily develop its own ERP division to use commercially available computer programs throughout the navy, as SPAWAR ITC is attempting to accomplish through their Enterprise Management of business solutions. The ERP divisions could further offer their services to any commercial business to aid them in aligning commercial software to meet their specific needs. Possibly SSC Chesapeake and

SPAWAR ITC's ERP divisions could acquire some of the billions of dollars of market share available in today's commercial software development market place. This could potentially enhance opportunities for the future of either one of these organizations.

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APPENDIX A.   MCCASKEY MODEL

Organization Design Factors

People
Human resources:
fit current/ future needs
Values
training

Task Requirements
interdependencies
Right tasks?
Patterns of behavior

Structure & Operating Mechanisms

Operating Mechanisms
Measurement & Control
Systems
Reward Systems
Training & Development
Recruitment & Selection

Organization Structure
Grouping of people &
activities
Integrating devices:
*plans, hierarchy, matrix

**Culture &
Management
Style**

Outcomes
*Performance
-Productivity
-Quality
*Human
outcomes
-Satisfaction
-Growth/dev't

Environment
-Economy
-Market place
-Social &
Political forces
-CHANGE

**Key Success
Factors**
-Economies of
scale
-Responsiveness
-New product
innovation
-Marketing and
delivery of
goods &
services

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APPENDIX B. SPAWAR ITC NWCF CUSTOMERS

- **DLA Financial Operations, Ft. Belvoir, Va**

  Defense Integrated Military Human Resource System (DIHMRS)

- **Naval Air Systems Command, Patuxent, River, MD**

  Support Equipment Resource Management Information System (SERMIS)

- **Naval Air System Command, Patuxent, River, MD**

  Meteorology Automated Systems for Uniform Recall and Reporting (MEASURE)

  Team Work Plan Automated Modules (TWPAM)

  Calibration Standard Acquisition Management System (CSAMS)

- **Naval Air Warfare Center, Lakehurst, NJ**

  Meteorology Automated Systems for Uniform Recall and Reporting (MEASURE)

  Team Work Plan Automated Modules (TWPAM)

  Calibration Standard Acquisition Management System (CSAMS)

  Information Technology Strategy (IT STRATEGY)

- **Commander Naval Reserve Force, New Orleans, LA**

  Networking and mission essentials

- **Naval Reserve Information System Office, New Orleans, LA**

  Develop implementation and installation of Microsoft Windows NT

- **MARCORSYSCOM, Quantico, VA**

  Develop high business model and diagram using BPWin and ERWin for PM TMDE office

APPENDIX C.   ORGNIZATION CHART

INFORMATION TECHNOLOGY CENTER
GS-15   Dale Galloway

Contract Management Office (ITC00C)
GS-13   C.Bruza
Deputy   Vacant

Legal Affairs Office (ITC00L)
GS-15   R. Johansmeier
Deputy   Vacant

Technical Director (ITC00I)
GS-15   Mike Kirsch
Deputy   Vacant

Special Emphasis Program Office (ITC00E)
GS-12   Kay Brazley
Deputy   Vacant

Military Coordination Office (ITC00M)
CDR Saviono
Deputy   Vacant

Quality Management Office (ITC00Q)
Vacant

DIMHRS Program Mgmt Office (ITC00D)
COL Larry Sweeney
Deputy   Vacant

NSIPS Program Mgmt Office (PMP-01)
CAPT Mark Moranville
Deputy Dennis Pigg

Program Planning Department (PM -11)

Software Development Dept (PM -13)

Software Engineering Dept (PM -14)

Strategic & Performance Mgmt (ITC10)
Director   Vacant
Deputy GS-14 Jackie Goff

Business Operations (ITC20)
GS-15 Augie Bailey
Deputy GS-14 John Burden

Systems Engineering, Investment & Integration (ITC30)
GS-15 Babette Kirsch
Deputy GM-14 C. Polk

Segment Management (ITC40)
Director Vacant
Deputy GS-14 C. Couchis

Information Technical Services (ITC50)
Director Vacant
Deputy GS-14 Mike Loria

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   Naval Postgraduate School
   Monterey, CA 93943

5. LCDR Cathy M. Kimmel..3
   P.O. Box 8585
   Monterey, CA 93943-8585

6. LT Edward T. Butzirus. 3
   Commander In Chief U.S. Pacific Fleet
   250 Makalapa Drive
   Pearl Harbor, Hawaii 96860
   Code N8011